

# BUILDING ON SUCCESSES IN AFRICAN AGRICULTURE

## Generalizing from Past Successes

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### IDENTIFYING SUCCESSES

Past successes in African agriculture can point the way to promising avenues for achieving similar success in the future. Drawing lessons from past success requires identifying a range of successful and less successful episodes and then studying and comparing them. To identify a broad range of successful episodes in African agriculture, our analytical team launched an expert survey, polling more than 1,000 African agriculture specialists. In conducting this review, we defined “success” as: *a significant, durable change in agriculture resulting in an increase in agriculturally derived aggregate income, together with reduced poverty and/or improved environmental quality.* From the responses, we, together with our advisory group, selected a dozen successful episodes for in-depth review and dispatched case study teams to investigate them. Although these episodes differ widely in terms of instigators of change, points of intervention, levels of subsidy involved, food and export crops, regional diversity, duration, and scale achieved (see table), they suggest ways in which past successes can be replicated and scaled up.

### KEY POLICY LEVERS

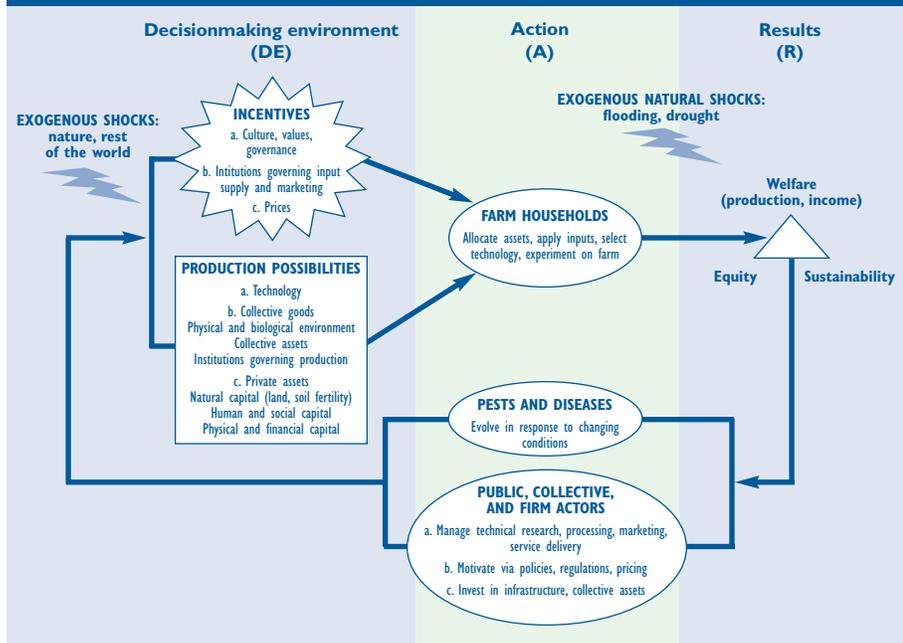
Our goal is to learn from what has gone right in the past. To do so, our case study teams adopted an analytical framework, placing farmer decisionmaking at its core (see figure next page). In this inherently dynamic system, two key structural features of the agricultural system govern farmers’ responses at any given point in time. First, production possibilities place initial bounds on the scope of action available to farmers. These possibilities depend on the stock of available biological and agronomic technology; on the state of physical infrastructure; on supporting institutions for resource management, input supply, and production; and on the available quantity, productivity, and distribution of key productive assets such as land, labor, capital, and water. Second, from within the available opportunity sets, prevailing incentive structures subsequently determine which of the many available options farmers, marketing agents, collective institutions, and public agencies will select. Market prices affect input supply as well as production, storage, processing, and marketing of outputs while incentives such as enhanced food security, social solidarity, or risk reduction influence individual and household decisionmaking.

### Case Study Summaries

| CHARACTERISTICS                         | REGION                   | WHO INITIATED CHANGE?   |   | WHAT INTERVENTIONS TRIGGERED CHANGE?   |                           |                     |                     |                | WERE LARGE RECURRENT PUBLIC SUBSIDIES INVOLVED IN SUSTAINING SMALLHOLDER GROWTH? |     |
|---|--------------------------|---|---|--|---------------------------|---------------------|---------------------|----------------|--|-----|
|   |                          | KEY INVESTIGATORS   | SUPPORTING ACTORS   | EXPANDED PRODUCTION POSSIBILITIES  |                           | IMPROVED INCENTIVES |                     | MARKET OUTLETS |  |     |
|   |                          |   |   | Technology   | Investments in asset base | Political lobbying  | Market institutions |                |  |     |
| Maize                                   | East and Southern Africa | <ul style="list-style-type: none"> <li>Commercial farmers</li> <li>Government breeders</li> <li>Government policy makers</li> <li>Parastatal marketing companies</li> </ul> | <ul style="list-style-type: none"> <li>Private seed companies</li> </ul>              | ■  |                           | ■                   | ■                   | ■              | Domestic   | Yes |
| Cotton                                  | West Africa              | <ul style="list-style-type: none"> <li>Donor and national governments</li> <li>Parastatal marketing companies</li> </ul>  | <ul style="list-style-type: none"> <li>Farmer organizations</li> </ul>                | ●  | △                         | △                   | ■                   | ■              | Export   | Yes |
| Cassava                                 | West Africa              | <ul style="list-style-type: none"> <li>IITA</li> <li>NARS</li> <li>Rural artisans</li> </ul>  | <ul style="list-style-type: none"> <li>Private oil companies</li> <li>NGOs</li> </ul> | ■  |                           |                     |                     | ●              | Domestic   | No  |
| Cassava                                 | Southern Africa          | <ul style="list-style-type: none"> <li>NARS</li> <li>IITA</li> </ul>  | <ul style="list-style-type: none"> <li>NGOs</li> </ul>                                | ■  |                           |                     |                     | ●              | Domestic   | No  |
| Horticulture                            | Kenya, Ivory Coast       | <ul style="list-style-type: none"> <li>Private traders</li> </ul>   |   | △  |                           |                     |                     | ●              | Export   | No  |
| Dairy                                   | Kenya                    | <ul style="list-style-type: none"> <li>Commercial farmers</li> <li>Government policymakers</li> <li>Parastatals</li> </ul>  |   | ■  | ●                         | ■                   | ■                   | ●              | Domestic   | Yes |
| SUSTAINABLE NATURAL RESOURCE MANAGEMENT | Planting basins          | Burkina Faso, Zambia  | <ul style="list-style-type: none"> <li>Private farmers</li> </ul>                     | <ul style="list-style-type: none"> <li>Government extension</li> <li>NGOs</li> <li>Private cotton company</li> </ul> | ■                         | ■                   |                     | △              | Domestic   | No  |
|   | Improved fallows         | Kenya, Zambia   | <ul style="list-style-type: none"> <li>ICRAF</li> </ul>                               | <ul style="list-style-type: none"> <li>Farmer researchers</li> <li>NGOs</li> <li>Government extension</li> </ul>     | ■                         | ■                   |                     | △              | Domestic   | No  |

- critical interventions
- important activities
- △ supporting activities

## The dynamics of agricultural change: The DE-A-R framework



In the future, African farmers must perform better than they have in the past. Since most governments left state and collective farms behind in the 1960s, governments and their partners no longer make production decisions directly. Instead, they must influence farmer behavior. As the figure indicates, they can do so in one of two ways. First, they can expand farmers' production possibilities—through research and improved technology, provision of collective goods and institutions governing production, and assistance to farmers in improving their asset base. Second, policymakers can alter the incentives facing farmers, thus inducing them to behave differently within the production possibilities available to them. Levers available for initiating change thus fall into these two categories: those affecting production possibilities (technology, natural resources) and those influencing farmer incentives (macroeconomic and trade policy, price policy, subsidy levels).

### REPLICATING AND SCALING UP

In some instances, technologies transfer directly from one location to another. SR-52, the breakthrough hybrid maize first released by the Southern Rhodesian agricultural service in 1961, spread rapidly in Zimbabwe and also to neighboring Malawi and Zambia, where it remains important today in breeding lines.

Yet in most instances technologies prove location-specific. Cassava varieties developed by the International Institute of Tropical Agriculture (IITA), for example, have not fared well when imported directly into Zambia because of different

altitude, temperature, soils, and rainfall. Many varieties of hybrid maize from temperate zones will not flower in equatorial regions because differences in daylight hours trigger tasseling. Pests, soils, and the policy environment vary across locations, making direct technology transplants uncertain. Research conducted by the World Agroforestry Centre (ICRAF) on improved fallows, which use nitrogen-fixing shrubs to rapidly rejuvenate depleted soils, clearly demonstrates the need for location-specific adaptive research.

In most cases the processes of change may prove more replicable than the individual technologies themselves. Therefore, it becomes important to pay particular attention to how the process of change unfolds in each instance. What institutions, investments, and interactions have proven key to enabling success? The remaining briefs in this series summarize the case studies, review changes in the international, national, and donor environments, and offer conclusions about how policymakers and their partners can improve agricultural performance going forward.

The challenge for the future is to build on these individual, often episodic, commodity- and activity-specific successes and translate them into sustained, systemwide improvements in agricultural performance. The partners involved in this review are committed to promoting the investments, policy environments, and partnerships necessary to replicate and scale up successful technologies and processes that can help accelerate growth in African agriculture. The stakes are high. Poverty reduction in Africa will simply not occur without a vibrant agricultural sector providing income, employment, and affordably priced staple foods. ■

**For further reading see E. Gabre-Madhin and S. Haggblade, "Successes in African Agriculture: Results of an Expert Survey," Background Paper No. 1 presented at the conference "Successes in African Agriculture: Building for the Future," Pretoria, South Africa, December 1–3, 2003; International Food Policy Research Institute, "Analyzing Successes in African Agriculture: The DE-A-R Framework," Background Paper No. 18 presented at the conference "Successes in African Agriculture: Building for the Future;" S. Haggblade, "Generalizing and Building on Past Success," Background Paper No. 14 presented at the conference "Successes in African Agriculture: Building for the Future," New Partnership for Africa's Development (NEPAD), Comprehensive Africa Agriculture Development Programme**

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